10/594785
IAP01 Rec'd PCT/PTO 29 SEP 2006

SEQUENCE LISTING

<110> Commonwealth Scientific and Industrial Research Organisation

<120> Genes involved in plant fibre development

<130> 503310

<150> AU 2004901749
<151> 2004-03-31

<150> US 60/558,480
<151> 2004-03-31

<160> 74

<170> PatentIn version 3.1

<210> 1
<211> 624
<212> PRT
<213> Gossypium hirsutum

<400> 1

Val Lys Phe Trp Phe Gln Asn Lys Arg Thr Gln Met Lys Ala Gln His
1 5 10 15

Glu Arg His Glu Asn Ala Ile Leu Lys Ala Glu Asn Glu Lys Leu Arg
20 25 30

Ala Glu Asn Asn Arg Tyr Lys Glu Ala Leu Ser Asn Ala Thr Cys Pro
35 40 45

Ser Cys Gly Gly Pro Ala Ala Leu Gly Glu Met Ser Phe Asp Glu Gln
50 55 60

His Leu Arg Ile Glu Asn Ala Arg Leu Arg Glu Glu Ile Asp Arg Ile
65 70 75 80

Ser Gly Ile Ala Ala Lys Tyr Val Gly Lys Pro Leu Ser Ser Leu Pro
85 90 95

His Leu Ser Ser His Leu His Ser Arg Ser Ala Asp Leu Gly Ala Ser
100 105 110

Asn Phe Gly Asn Gln Ser Gly Phe Val Gly Glu Met Asp Arg Ser Gly
115 120 125

```
Asp Leu Leu Arg Ser Val Ser Gly Pro Thr Glu Ala Asp Lys Pro Met
    130                 135                 140

Ile Val Glu Leu Ala Val Ala Ala Met Glu Glu Leu Ile Arg Met Ala
145                 150                 155                 160

Gln Ser Gly Glu Pro Leu Trp Val Pro Gly Asp Asn Ser Thr Asp Val
                165                 170                 175

Leu Asn Glu Asp Glu Tyr Leu Arg Thr Phe Pro Arg Gly Ile Gly Pro
            180                 185                 190

Lys Pro Leu Gly Leu Arg Ser Glu Ala Ser Arg Glu Ser Ala Val Val
        195                 200                 205

Ile Met Asn His Val Asn Leu Val Glu Ile Leu Met Asp Val Asn Gln
    210                 215                 220

Trp Ser Ser Val Phe Cys Gly Ile Val Ser Arg Ala Met Thr Leu Glu
225                 230                 235                 240

Val Leu Ser Thr Gly Val Ala Gly Asn Tyr Asn Gly Ala Leu Gln Val
                245                 250                 255

Met Thr Ala Glu Phe Gln Val Pro Ser Pro Leu Val Pro Thr Arg Glu
            260                 265                 270

Asn Tyr Phe Ala Arg Tyr Cys Lys Gln His Ile Asp Gly Thr Trp Ala
        275                 280                 285

Val Val Asp Val Ser Leu Asp Asn Leu Arg Pro Asn Pro Met Ser Ser
    290                 295                 300

Val Glu Arg Pro Ser Gly Cys Leu Ile Gln Asn Cys Gln Met Asp Thr
305                 310                 315                 320

Ser Lys Val Ile Trp Val Glu His Val Glu Val Asp Asp Arg Ala Val
                325                 330                 335

His Asn Ile Tyr Arg Pro Val Val Asn Ser Gly Leu Ala Phe Gly Ala
            340                 345                 350

Lys Arg Trp Val Ala Thr Leu Asp Arg Gln Cys Glu Arg Leu Ala Ser
```

355 360 365

Ser Met Ala Ser Asn Ile Pro Ala Gly Gly Leu Cys Val Ile Thr Ser
370 375 380

Pro Glu Gly Arg Lys Ser Met Leu Lys Leu Ala Glu Arg Met Val Thr
385 390 395 400

Ser Phe Cys Thr Gly Val Gly Ala Ser Thr Ala His Ala Trp Thr Thr
405 410 415

Leu Ser Ala Thr Gly Ser Asp Asp Val Arg Val Met Thr Arg Lys Ser
420 425 430

Met Asp Asp Pro Gly Arg Pro Pro Gly Ile Val Leu Ser Ala Ala Thr
435 440 445

Ser Phe Trp Ile Gln Val Pro Pro Lys Arg Val Phe Asp Phe Leu Arg
450 455 460

Asp Glu Asn Ser Arg Ser Glu Trp Asp Ile Leu Ser Asn Gly Gly Leu
465 470 475 480

Val Gln Glu Met Ala His Ile Ala Asn Gly Arg Asp Pro Gly Asn Cys
485 490 495

Val Ser Leu Leu Arg Val Asn Ser Ala Asn Ser Ser Gln Ser Asn Met
500 505 510

Leu Ile Leu Gln Glu Ser Cys Thr Asp Ala Lys Gly Ser Tyr Val Ile
515 520 525

Tyr Ala Pro Val Asn Ile Val Ala Met Asn Ile Val Leu Ser Gly Gly
530 535 540

Asp Pro Asp Tyr Val Ala Leu Leu Pro Ser Gly Phe Ala Ile Leu Pro
545 550 555 560

Asp Gly Pro Gly Val Asn Gly Gly Gly Ile Leu Glu Ile Gly Ser Gly
565 570 575

Gly Ser Leu Leu Thr Val Ala Phe Gln Ile Leu Val Asp Ser Val Pro
580 585 590

```
Thr Ala Lys Leu Ser Leu Gly Ser Val Ala Thr Val Asn Ser Leu Ile
        595                 600                 605

Lys Cys Thr Val Glu Arg Ile Lys Ala Ala Val Lys Cys Asn Asn Ala
    610                 615                 620
```

<210> 2
<211> 309
<212> PRT
<213> Gossypium hirsutum

<400> 2

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Met Gly Arg Ser Pro Cys Cys Glu Lys Val Gly Leu Lys Lys Gly Pro
1               5                  10                  15

Trp Thr Pro Glu Glu Asp Gln Lys Leu Leu Ala Tyr Ile Glu Gln His
            20                  25                  30

Gly His Gly Ser Trp Arg Ala Leu Pro Ser Lys Ala Gly Leu Gln Arg
        35                  40                  45

Cys Gly Lys Ser Cys Arg Leu Arg Trp Ile Asn Tyr Leu Arg Pro Asp
    50                  55                  60

Ile Lys Arg Gly Lys Phe Ser Leu Gln Glu Glu Gln Thr Ile Ile Gln
65                  70                  75                  80

Leu His Ala Leu Leu Gly Asn Arg Trp Ser Ala Ile Ala Thr His Leu
                85                  90                  95

Pro Lys Arg Thr Asp Asn Glu Ile Lys Asn Tyr Trp Asn Thr His Leu
            100                 105                 110

Met Lys Arg Leu Thr Lys Met Gly Ile Asp Pro Val Thr His Lys Pro
        115                 120                 125

Lys Thr Asp Ala Leu Gly Ser Thr Thr Gly Asn Pro Lys Asp Ala Ala
    130                 135                 140

Asn Leu Ser His Met Ala Gln Trp Glu Ser Ala Arg Leu Glu Ala Glu
145                 150                 155                 160
```

```
Ala Arg Leu Val Arg Glu Ser Lys Leu Val Pro Ser Asn Pro Pro Gln
                165                 170                 175

Ser Asn His Phe Thr Ala Val Ala Pro Ser Pro Thr Pro Ala Thr Arg
            180                 185                 190

Pro Gln Cys Leu Asp Val Leu Lys Ala Trp Gln Gly Val Val Cys Gly
        195                 200                 205

Leu Phe Thr Phe Asn Met Asp Asn Asn Asn Leu Gln Ser Pro Thr Ser
    210                 215                 220

Thr Leu Asn Phe Met Glu Asn Thr Thr Thr Leu Pro Met Ser Ser Ser
225                 230                 235                 240

Ser Ser Val Asn Gly Met Phe Asn Glu Asn Phe Gly Trp Asn Ser Ser
                245                 250                 255

Ile Asn Pro Cys Glu Ser Gly Asp Asn Leu Lys Val Glu Tyr Gly Ser
            260                 265                 270

Asp Gln Ile Pro Glu Leu Lys Glu Arg Leu Asp His Pro Met Glu Leu
        275                 280                 285

His Glu Met Asp Tyr Ser Ser Glu Gly Thr Trp Phe Gln Glu Leu Phe
    290                 295                 300

Gly Phe Asn Gly Leu
305
```

<210> 3
<211> 150
<212> PRT
<213> Gossypium hirsutum

<400> 3

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Arg Cys Glu Arg Leu Leu Leu Cys Val Ile Ser Asp Ala Arg Ser Ile
1               5                   10                  15

His Tyr Leu Pro Ser Val Leu Ala Thr Ala Thr Met Met His Val Ile
            20                  25                  30

Asp Gln Val Glu Leu Phe Asn Pro Ile Asp Tyr Gln Asn Gln Leu Leu
```

35 40 45

Ser Val Leu Lys Ile Ser Lys Glu Lys Val Asn Asp Cys Tyr Lys Leu
50 55 60

Ile Leu Asp Val Ser Thr Arg Pro Gln Ala Gln Gly Asn Gly Gly Ala
65 70 75 80

Cys Lys Arg Lys Val Glu Glu Arg Val Pro Ser Ser Pro Ser Gly Val
85 90 95

Ile Asp Ala Ala Phe Gly Ser Asp Ser Ser Ser Asp Ser Trp Gly Thr
100 105 110

Val Ser Leu Ser Pro Glu Gln Gln Pro Pro Phe Lys Lys Ser Arg Ala
115 120 125

Gln Glu Gln Val Met Arg Leu Pro Ser Leu Asn Arg Val Phe Val Asp
130 135 140

Ile Val Gly Ser Pro Ser
145 150

<210> 4
<211> 229
<212> PRT
<213> Gossypium hirsutum

<400> 4

Met Ala Asn His Thr Val Thr Phe Leu Pro Lys Leu Ser Ile Glu Ala
1 5 10 15

Ile Gln Thr Val Thr Pro Met Arg Ile Thr Glu Pro Arg Gln Thr Arg
20 25 30

Gln Val Leu Ala Gly Glu Leu Val Gly Pro Gly Ile Phe Gln Arg Cys
35 40 45

Leu Asn Val Val Gln Tyr Tyr Met Lys Glu Lys Glu Glu Asp Ser Gly
50 55 60

Trp Leu Leu Ala Gly Trp Ile Lys Glu Thr Leu Gly Arg Ala Leu His
65 70 75 80

```
Glu Gln Pro Met Ile Ser Gly Arg Leu Arg Lys Gly Glu Arg Asn Asp
                85                  90                  95

Gly Glu Leu Glu Ile Val Ser Asn Asp Cys Gly Ile Arg Leu Ile Glu
            100                 105                 110

Ala Arg Ile Gln Met Asn Leu Ser Asp Phe Leu Asp Leu Lys Gln Arg
        115                 120                 125

Glu Asp Ala Glu Ala Gln Leu Val Phe Trp Lys Asp Ile Asp Glu Gln
    130                 135                 140

Asn Pro Gln Phe Ser Pro Leu Phe Tyr Val Gln Val Thr Asn Phe Gln
145                 150                 155                 160

Cys Gly Gly Tyr Ser Ile Gly Ile Ser Cys Ser Ile Leu Leu Ala Asp
                165                 170                 175

Leu Leu Leu Met Lys Glu Phe Leu Lys Thr Trp Ala Asp Ile Pro Thr
            180                 185                 190

Arg Leu Leu Ser Thr Lys Thr Met Asn Lys Ser Phe Leu Tyr Ser Thr
        195                 200                 205

Phe Leu Ala Glu Lys His Gln Trp Cys Leu Pro Thr Ser Ser His Gln
    210                 215                 220

Ile Gln Ala Lys Leu
225
```

<210> 5
<211> 107
<212> PRT
<213> Gossypium hirsutum

<400> 5

```
Met Ala Lys Tyr Leu Asn Val Val Leu Val Leu Ala Leu Val Val Val
1               5                   10                  15

Gln Ala Thr Ala Arg Asn Val Pro Ser Asp Ala Ala Gly Leu Asn Asp
            20                  25                  30

Gln Lys Asn Leu Leu Thr Tyr Gly Gly Ile Gly Gly Tyr Ser Gly Met
```

35 40 45

Gly Ser Asn Gly Met Pro Met Gly Gly Val Gly Ser Val Gly Gly Met
50 55 60

Thr Gly Leu Gly Gly Thr Gly Gly Met Gly Ala Met Val Gly Val Gly
65 70 75 80

Tyr Gly Gly Gly Pro Gly Ala Gly Gly Gly Asn Glu Gly Gly Val Gly
85 90 95

Ile Gly Asn Ala Pro Gly Val Val His Phe Pro
100 105

<210> 6
<211> 112
<212> PRT
<213> Gossypium hirsutum

<400> 6

Ser Ser Asp Ser Arg Lys Pro Leu Ala Ser Phe Tyr Leu Glu Lys Thr
1 5 10 15

Lys Lys Leu Leu Leu Cys Trp Thr Cys Ser Cys Phe Phe Ser Leu Tyr
20 25 30

Gly Val Val Tyr Gly Leu Tyr Tyr Glu Phe Tyr Met Asn Arg Thr Leu
35 40 45

Asn Leu Val Arg Lys Leu Arg Met Ser Leu Gly Gly Ala Glu Val Leu
50 55 60

Met Ala Ile Ala Gly Leu Trp Ala Val Val Leu Arg Pro Leu Met Ile
65 70 75 80

Arg Tyr Ala Val Glu Met Ser Gln Met Ile Gly Ile Ser Val Arg Arg
85 90 95

Phe Phe Ser Asn Pro Leu Ser Pro Ser Val Ser Phe Phe Tyr Trp Tyr
100 105 110

<210> 7
<211> 258
<212> PRT

<213> Gossypium hirsutum

<400> 7

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Met Ala Thr Lys Thr Met Met Leu Gln Ile Phe Pro Leu Phe Phe Phe
1               5                  10                  15

Leu Phe Ser Val Cys Asn Ser Ile Phe Leu Gly Ala Asn Gly Asp Asp
            20                  25                  30

Asn Gly Gly Trp Gln Thr Ala His Ala Thr Phe Tyr Gly Gly Ala Asp
        35                  40                  45

Ala Thr Gly Thr Met Gly Gly Ala Cys Gly Tyr Gly Asn Leu Tyr Ser
    50                  55                  60

Gln Gly Tyr Gly Thr Ser Thr Ala Ala Leu Ser Thr Ala Leu Phe Asn
65                  70                  75                  80

Asn Gly Leu Ser Cys Gly Ala Cys Tyr Glu Leu Arg Cys Asn Asn Asp
                85                  90                  95

Pro Gln Trp Cys Ile Ser Arg Thr Ile Thr Val Thr Ala Thr Asn Phe
            100                 105                 110

Cys Pro Pro Asn Tyr Ala Leu Ser Ser Asp Asn Gly Gly Trp Cys Asn
        115                 120                 125

Pro Pro Arg Glu His Phe Asp Leu Ala Glu Pro Arg Phe Leu Arg Ile
    130                 135                 140

Ala Glu Tyr Arg Ala Gly Ile Val Pro Val Met Phe Arg Arg Val Ser
145                 150                 155                 160

Cys Val Lys Lys Gly Gly Ile Arg Tyr Thr Met Asn Gly His Ser Tyr
                165                 170                 175

Phe Asn Met Val Leu Ile Thr Lys Leu Gly Gly Ala Gly Asp Ile Thr
            180                 185                 190

Ser Val Ser Ile Lys Gly Ser Arg Thr Gly Trp Leu Pro Met Ser Arg
        195                 200                 205

Asn Trp Gly Gln Asn Trp Gln Ser Asn Ala Tyr Leu Asn Gly Gln Ser
```

210 215 220

Leu Ser Phe Lys Val Thr Ala Ser Asp Gly Arg Thr Ile Thr Ala Tyr
225 230 235 240

Asn Val Val Pro Ala Gly Trp Gln Phe Gly Gln Thr Phe Glu Gly Gly
245 250 255

Gln Phe

<210> 8
<211> 190
<212> PRT
<213> Gossypium hirsutum

<400> 8

Val Pro Phe Tyr Ser Ser Asn Tyr Leu Leu His Glu Ser Cys Met Met
1 5 10 15

Met Ile Ala Ser Leu Val Pro Asn Phe Met Met Gly Val Ile Ile Gly
20 25 30

Ala Gly Tyr Ile Gly Leu Leu Met Met Thr Ala Gly Tyr Phe Arg Leu
35 40 45

Leu Pro Asp Leu Pro Lys Ile Phe Trp Arg Tyr Pro Val Ser Tyr Ile
50 55 60

Asn Tyr Gly Ala Trp Ala Leu Gln Gly Ala Tyr Lys Asn Asp Met Val
65 70 75 80

Gly Leu Glu Phe Asp Gly Phe Ile Pro Gly Gly Pro Lys Leu Lys Gly
85 90 95

Asp Val Val Leu Thr Ser Met Leu Gly Ile His Leu Asp His Ser Lys
100 105 110

Trp Trp Asp Leu Ala Ala Val Ile Met Ile Leu Ile Ala Tyr Arg Leu
115 120 125

Leu Phe Phe Ile Ile Leu Lys Phe Lys Glu Arg Val Ser Pro Leu Phe
130 135 140

```
Arg Thr Leu Tyr Thr Trp Arg Thr Leu Gln His Met Lys Lys Arg Pro
145                 150                 155                 160

Ser Phe Arg Lys Thr Ser Ala Phe Pro Ser Lys Arg His Gln Val Leu
                165                 170                 175

His Ser Leu Ser Ser Gln Glu Gly Leu Asn Ser Pro Ile His
            180                 185                 190
```

<210> 9
<211> 805
<212> PRT
<213> Gossypium hirsutum

<400> 9

```
Met Ala Asn Pro Val Ile Thr Arg Val His Ser Leu Arg Glu Arg Leu
1               5                   10                  15

Asp Glu Thr Leu Leu Ala His Arg Asn Glu Ile Leu Ala Leu Leu Ser
            20                  25                  30

Arg Ile Glu Gly Lys Gly Lys Gly Ile Leu Gln His His Gln Ile Ile
        35                  40                  45

Leu Glu Phe Glu Ala Ile Pro Glu Glu Asn Arg Lys Lys Leu Ala Asp
    50                  55                  60

Gly Ala Phe Phe Glu Val Leu Lys Ala Ser Gln Glu Ala Ile Val Leu
65                  70                  75                  80

Pro Pro Trp Val Ala Leu Ala Val Arg Pro Arg Pro Gly Val Trp Glu
                85                  90                  95

Tyr Ile Arg Val Asn Val His Ala Leu Val Val Glu Glu Leu Thr Val
            100                 105                 110

Ala Glu Tyr Leu His Phe Lys Glu Glu Leu Val Asp Gly Ser Ser Asn
        115                 120                 125

Gly Asn Phe Val Leu Glu Leu Asp Phe Glu Pro Phe Asn Ser Ser Phe
    130                 135                 140

Pro Arg Pro Thr Leu Ser Lys Ser Val Gly Asn Gly Val Glu Phe Leu
```

```
145                 150                 155                 160

Asn Arg His Leu Ser Ala Lys Leu Phe His Asp Lys Glu Ser Met His
                165                 170                 175

Pro Leu Leu Glu Phe Leu Arg Val His Cys His Lys Gly Lys Asn Met
            180                 185                 190

Met Leu Asn Asp Arg Ile Gln Asn Leu Asn Ala Leu Gln His Val Leu
        195                 200                 205

Arg Lys Ala Glu Glu Tyr Leu Gly Thr Leu Pro Pro Glu Thr Pro Cys
    210                 215                 220

Ala Gly Phe Glu His Arg Phe Gln Glu Ile Gly Leu Glu Arg Gly Trp
225                 230                 235                 240

Gly Asp Thr Ala Gln Arg Val Leu Glu Met Ile Gln Leu Leu Leu Asp
                245                 250                 255

Leu Leu Glu Ala Pro Asp Pro Cys Thr Leu Glu Lys Phe Leu Gly Arg
            260                 265                 270

Ile Pro Met Val Phe Asn Val Val Ile Leu Thr Pro His Gly Tyr Phe
        275                 280                 285

Ala Gln Asp Asn Val Leu Gly Tyr Pro Asp Thr Gly Gly Gln Val Val
    290                 295                 300

Tyr Ile Leu Asp Gln Val Arg Ala Leu Glu Asn Glu Met Leu Leu Arg
305                 310                 315                 320

Ile Lys Gln Gln Gly Leu Asn Ile Thr Pro Arg Ile Leu Ile Ile Thr
                325                 330                 335

Arg Leu Leu Pro Asp Ala Val Gly Thr Thr Cys Gly Gln Arg Leu Glu
            340                 345                 350

Lys Val Tyr Gly Thr Glu Tyr Ser Asp Ile Leu Arg Val Pro Phe Arg
        355                 360                 365

Thr Glu Lys Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp
    370                 375                 380
```

```
Pro Tyr Leu Glu Thr Tyr Thr Glu Asp Val Ala His Glu Ile Ser Lys
385                 390                 395                 400

Glu Leu Gln Gly Lys Pro Asp Leu Ile Ile Gly Asn Tyr Ser Asp Gly
                405                 410                 415

Asn Ile Val Ala Ser Leu Leu Ala His Lys Leu Gly Val Thr Gln Cys
            420                 425                 430

Thr Ile Ala His Ala Leu Glu Lys Thr Lys Tyr Pro Asp Ser Asp Ile
        435                 440                 445

Tyr Trp Lys Lys Leu Glu Asp Lys Tyr His Phe Ser Cys Gln Phe Thr
    450                 455                 460

Ala Asp Leu Phe Ala Met Asn His Thr Asp Phe Ile Ile Thr Ser Thr
465                 470                 475                 480

Phe Gln Glu Ile Ala Gly Ser Lys Asp Thr Val Gly Gln Tyr Glu Ser
                485                 490                 495

His Thr Ala Phe Thr Leu Pro Gly Leu Tyr Arg Val Val His Gly Ile
            500                 505                 510

Asp Val Phe Asp Pro Lys Phe Asn Ile Val Ser Pro Gly Ala Asp Met
        515                 520                 525

Glu Ile Tyr Phe Pro Tyr Thr Glu Glu Lys Arg Arg Leu Lys His Phe
    530                 535                 540

His Thr Glu Ile Glu Asp Leu Leu Tyr Ser Lys Val Glu Asn Glu Glu
545                 550                 555                 560

His Leu Cys Val Leu Asn Asp Arg Asn Lys Pro Ile Leu Phe Thr Met
                565                 570                 575

Ala Arg Leu Asp Arg Val Lys Asn Leu Thr Gly Leu Val Glu Trp Tyr
            580                 585                 590

Gly Lys Asn Ala Lys Leu Arg Glu Leu Ala Asn Leu Val Val Val Gly
        595                 600                 605
```

```
Gly Asp Arg Arg Lys Glu Ser Lys Asp Leu Glu Glu Lys Ala Glu Met
    610                 615                 620

Lys Lys Met Phe Glu Leu Ile Glu Lys Tyr Asn Leu Asn Gly Gln Phe
625                 630                 635                 640

Arg Trp Ile Ser Ser Gln Met Asn Arg Ile Arg Asn Gly Glu Leu Tyr
                645                 650                 655

Arg Tyr Ile Cys Asp Thr Lys Gly Ala Phe Val Gln Pro Ala Leu Tyr
            660                 665                 670

Glu Ala Phe Gly Leu Thr Val Val Glu Ala Met Thr Cys Gly Leu Pro
        675                 680                 685

Thr Phe Ala Thr Cys Asn Gly Gly Pro Ala Glu Ile Ile Val His Gly
    690                 695                 700

Lys Ser Gly Phe Asn Ile Asp Pro Tyr His Gly Asp Gln Ala Ala Asp
705                 710                 715                 720

Ile Leu Val Asp Phe Phe Glu Lys Cys Lys Lys Asp Pro Ser His Trp
                725                 730                 735

Asp Lys Ile Ser Gln Gly Gly Leu Lys Arg Ile Glu Glu Lys Tyr Thr
            740                 745                 750

Trp Lys Ile Tyr Ser Glu Arg Leu Leu Thr Leu Thr Gly Val Tyr Gly
        755                 760                 765

Phe Trp Lys His Val Ser Asn Leu Glu Arg Arg Glu Ser Arg Arg Tyr
    770                 775                 780

Leu Glu Met Phe Tyr Ala Leu Lys Tyr Arg Lys Leu Ala Glu Ser Val
785                 790                 795                 800

Pro Leu Ala Glu Glu
                805
```

<210> 10
<211> 195
<212> PRT
<213> Gossypium hirsutum

<400> 10

Met Glu Arg Gly Phe Ile Val Leu Ala Leu Thr Val Val Phe Ala Ala
1 5 10 15

Thr Val Val Thr Ala Ala Asp Glu Ser Gly Leu Ala Asn Glu Cys Ser
20 25 30

Lys Asp Phe Gln Ser Val Met Thr Cys Leu Ser Phe Ala Gln Gly Lys
35 40 45

Ala Ala Ser Pro Ser Lys Glu Cys Cys Asn Ser Val Ala Gly Ile Lys
50 55 60

Glu Asn Lys Pro Lys Cys Leu Cys Tyr Ile Leu Gln Gln Thr Gln Thr
65 70 75 80

Ser Gly Ala Gln Asn Leu Lys Ser Leu Gly Val Gln Glu Asp Lys Leu
85 90 95

Phe Gln Leu Pro Ser Ala Cys Gln Leu Lys Asn Ala Ser Val Ser Asp
100 105 110

Cys Pro Lys Leu Leu Gly Leu Ser Pro Ser Ser Pro Asp Ala Ala Ile
115 120 125

Phe Thr Asn Ser Ser Ser Lys Ala Thr Thr Pro Ser Thr Ser Thr Thr
130 135 140

Thr Ala Thr Pro Ser Ser Ala Ala Asp Lys Thr Asp Ser Lys Ser Ser
145 150 155 160

Gly Ile Lys Leu Gly Pro His Phe Val Gly Ser Thr Ala Ala Leu Leu
165 170 175

Val Ala Thr Ala Ala Val Phe Phe Leu Val Phe Pro Ala Gly Phe Ala
180 185 190

Ser Ile Val
195

<210> 11
<211> 123

<212> PRT
<213> Gossypium hirsutum

<400> 11

Met Ala Ser Ser Gly Val Leu Lys Leu Val Ser Met Ile Leu Met Val
1 5 10 15

Cys Met Thr Met Met Ser Ala Pro Lys Ala Ala Lys Ala Ala Ile Thr
20 25 30

Cys Ser Asp Val Val Asn His Leu Ile Pro Cys Leu Ser Tyr Val Gln
35 40 45

Asn Gly Gly Thr Pro Ala Ala Ala Cys Cys Ser Gly Val Lys Ala Leu
50 55 60

Tyr Gly Glu Val Gln Thr Ser Pro Asp Arg Gln Asn Val Cys Lys Cys
65 70 75 80

Ile Lys Ser Ala Val Asn Gly Ile Pro Tyr Thr Ser Asn Asn Leu Asn
85 90 95

Leu Ala Ala Gly Leu Pro Ala Lys Cys Gly Leu Gln Leu Pro Tyr Ser
100 105 110

Ile Ser Pro Ser Thr Asp Cys Asn Lys Val Gln
115 120

<210> 12
<211> 282
<212> PRT
<213> Gossypium hirsutum

<400> 12

Pro Arg Val Arg Pro Arg Val Arg Ala His Leu Pro Lys Arg Thr Asp
1 5 10 15

Asn Glu Ile Lys Asn Tyr Trp Asn Thr Gln Leu Lys Lys Arg Leu Thr
20 25 30

Thr Ile Gly Ile Asp Pro Ala Thr His Arg Pro Lys Thr Asp Thr Leu
35 40 45

Gly Ser Thr Pro Lys Asp Ala Ala Asn Leu Ser His Met Ala Gln Trp

50 55 60

Glu Ser Ala Arg Leu Glu Ala Glu Ala Arg Leu Val Arg Glu Ser Lys
65 70 75 80

Arg Val Ser Asn Pro Ser Gln Asn Gln Phe Arg Phe Thr Ser Ser Ser
85 90 95

Ala Pro Pro Leu Val Ser Lys Ile Asp Val Gly Leu Ala His Ala Thr
100 105 110

Lys Pro Gln Cys Leu Asp Val Leu Lys Ala Trp Gln Arg Val Val Thr
115 120 125

Gly Leu Phe Thr Phe Asn Thr Asp Asn Leu Gln Ser Pro Thr Ser Thr
130 135 140

Ser Ser Phe Thr Glu Asn Thr Leu Pro Ile Ser Ser Val Gly Phe Ile
145 150 155 160

Asp Ser Phe Val Gly Asn Ser Asn Asn Ser Cys Cys Gly Asn Asn Trp
165 170 175

Glu Cys Val Glu Lys Ser Ser Gln Val Ala Glu Leu Gln Glu Arg Leu
180 185 190

Asp Asn Ser Met Gly Leu His Asp Ile Leu Asp Leu Ser Ser Glu Asp
195 200 205

Val Trp Phe Gln Gly Ser Tyr Arg Ala Glu Asn Met Met Glu Gly Tyr
210 215 220

Ser Asp Thr Leu Met Val Cys Asp Ser Gly Asp His Pro Lys Ser Leu
225 230 235 240

Ser Met Glu Pro Arg Gln Asn Phe Asn Val Gly Thr Ser Asn Ala Ser
245 250 255

Ser Phe Glu Glu Asn Lys Asn Tyr Trp Asn Asn Ile Leu Asn Phe Ala
260 265 270

Asn Ala Ser Pro Ser Gly Ser Ser Val Phe
275 280

<210> 13
<211> 177
<212> PRT
<213> Gossypium hirsutum

<400> 13

Met Lys Val Leu Ser Pro Ile Leu Ala Cys Leu Ala Leu Ala Val Val
1 5 10 15

Ala Ser His Ala Ala Leu Ser Pro Glu Gln Tyr Trp Ser Tyr Lys Leu
20 25 30

Pro Asn Thr Pro Met Pro Lys Ala Val Lys Glu Ile Leu His Pro Glu
35 40 45

Leu Met Glu Glu Lys Ser Thr Ser Val Asn Val Gly Gly Gly Gly Val
50 55 60

Asn Val Asn Thr Gly Lys Gly Lys Pro Ala Gly Gly Thr His Val Asn
65 70 75 80

Val Gly Arg Lys Gly Val Gly Val Asn Thr Gly Lys Pro Gly Gly Gly
85 90 95

Thr His Val Asn Val Gly Gly Lys Gly Val Gly Val Asn Thr Gly Lys
100 105 110

Pro Gly Gly Gly Thr His Val Asn Val Gly Gly Lys Gly Gly Gly Val
115 120 125

Ser Val His Thr Gly His Lys Gly Lys Pro Val Asn Val Asn Val Ser
130 135 140

Pro Phe Leu Tyr Gln Tyr Ala Ala Ser Glu Thr Gln Ile His Asp Asp
145 150 155 160

Pro Asn Val Ala Leu Phe Phe Leu Glu Lys Asp Leu His Pro Gly Gln
165 170 175

Gln

<210> 14
<211> 282
<212> PRT
<213> Gossypium hirsutum

<400> 14

Leu Ser Glu Ser Lys Glu Met Val Phe Gln Phe Asn Phe Pro Val Leu
1 5 10 15

Leu Leu Cys Leu Met Phe Leu Met Cys Gly Arg Gly Asn Ala Val Arg
20 25 30

Asp Leu Glu Gly Lys His Asp Phe Glu Ser His Gly Arg Asp Asp Glu
35 40 45

Val Glu Ser Leu Asp Asp Lys Tyr Val Ser Ala Tyr Phe His Gln Thr
50 55 60

Phe Asp Ser Ala Asn His Phe Asp Gly Gly Asp Glu Val Lys Asn Leu
65 70 75 80

Glu Asp Lys Tyr Ser Thr Ala Tyr Phe His Lys Ser Leu Asp Ser Gly
85 90 95

Asn His Gly Arg Asp Asp Lys Ala Lys Ile Leu Glu Asp Lys Tyr Ala
100 105 110

Thr Ala Tyr Phe His Lys Thr Ser Val Phe Glu Asn His Gly Glu Gly
115 120 125

Asp Lys Leu Lys Ser Leu Glu Asp Lys Tyr Ser Ala Ala Tyr Phe His
130 135 140

Asn Thr Gln Ser Ser Lys Met Met Lys Asp His Asn Met Glu His His
145 150 155 160

His His Tyr His Asn His Val Glu Ser Ala Glu Ile Gly Leu Phe Thr
165 170 175

Ile Asp Glu Leu His Thr Phe Asn Val Gly Lys Lys Leu Pro Ile Phe
180 185 190

Phe Pro Ile Lys Asn His Ser Leu Tyr Pro Pro Leu Leu Pro Lys Gln
195 200 205

```
Ile Ala Asp Thr Ile Pro Phe Ser Ser Phe Gln Val Ser Asn Ile Leu
    210                 215                 220

Arg Phe Phe Ser Val Ser Pro Asp Ser Pro Lys Gly Lys Ser Cys Ser
225                 230                 235                 240

Arg Tyr Leu Arg Lys Met Arg Thr Arg Ser Ser Ala Arg Gly Arg Pro
                245                 250                 255

Lys Ile Trp Ala Thr Ser Leu Lys Ser Leu His Gly Phe Leu Ser Met
            260                 265                 270

His Leu Gly Pro Met Leu Ile Ser Ser Ser
        275                 280
```

<210> 15
<211> 55
<212> PRT
<213> Gossypium hirsutum

<400> 15

```
Lys Trp Glu Ala Gly Gln Ser Gln Cys Met Val Val Leu Val Phe Thr
1               5                   10                  15

Gln Ile Ser Leu Val Lys Gly Lys Arg Lys Leu Cys Tyr Ser Ser Ile
            20                  25                  30

Val Ala Leu Ile Leu Glu Ser Val Leu Phe Val Leu Thr Phe Pro Ala
        35                  40                  45

Leu Thr Asp Met Asn Leu Tyr
    50                  55
```

<210> 16
<211> 235
<212> PRT
<213> Gossypium hirsutum

<400> 16

```
Met Pro Arg Thr Arg Arg Phe Asn Pro Pro Ser Ile Thr Ser Arg Thr
1               5                   10                  15

Leu Gly His His Val Tyr Lys Asp Asp Asn Pro Ile Val Tyr Gly Thr
```

20 25 30

Met Gln Ala Tyr Leu Lys Asp Ala Arg Glu Arg Leu Phe Asn Thr Ala
35 40 45

Arg Thr Ala Glu Lys Leu Gly Ile His Met Gly Phe Lys Leu Val Arg
50 55 60

Gly Ala Tyr Met Ser Ser Glu Thr Lys Leu Ala Ser Ser Leu Gly Phe
65 70 75 80

Asp Ser Pro Val His Asn Thr Ile Gln Asp Thr His Ala Cys Phe Asn
85 90 95

Asp Cys Ala Ser Phe Met Ile Glu Lys Ile Ala Asp Gly Tyr Gly Gly
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Leu Val Leu Ala Thr His Asn Leu Glu Ser Gly Lys Leu Ala Ala Ser
115 120 125

Lys Ala Arg Asn Leu Gly Ile Glu Lys Gly Asn Gln Lys Leu Glu Phe
130 135 140

Ala Gln Leu Tyr Gly Met Ser Glu Ala Leu Ser Ile Gly Leu Arg Asn
145 150 155 160

Ala Gly Phe Gln Val Ser Lys Tyr Leu Pro Tyr Gly Pro Val Asp Met
165 170 175

Val Met Pro Tyr Leu Leu Arg Arg Ala Glu Glu Asn Arg Gly Leu Leu
180 185 190

Ser Thr Ser Ser Leu Asp Arg Thr Leu Met Gly Lys Glu Leu Lys Arg
195 200 205

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Ala Gly Ser Met Lys Ile Glu Ile Gly Thr Pro
225 230 235

<210> 17
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<212> DNA
<213> Gossypium hirsutum

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gaatacttaa gaactttccc taggggaatt ggaccaaagc ctttggggtt gaggtctgaa 600

gcttcaagag aatctgcagt tgtcatcatg aatcatgtca acttagttga gattctcatg 660

gatgtgaatc aatggtcaag tgtgttttgc ggtattgttt caagggctat gactttagaa 720

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tctaaggtta tatgggtcga gcatgtagaa gtggatgata gagctgtcca caacatatac 1020

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cgacagtgtg agcgtctagc aagttcaatg gccagtaaca ttccagcagg gggtctatgc 1140

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<210> 18
<211> 1872
<212> DNA
<213> Gossypium hirsutum

<400> 18
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gctctcagca atgctacatg ccccagctgt ggaggcccag ctgcccttgg agagatgtca 180

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catttacatt cgcgctctgc tgatcttgga gctagcaatt tcgggaatca atcaggattt 360

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gaatacttaa gaactttccc taggggaatt ggaccaaagc ctttggggtt gaggtctgaa 600

gcttcaagag aatctgcagt tgtcatcatg aatcatgtca acttagttga gattctcatg 660

gatgtgaatc aatggtcaag tgtgttttgc ggtattgttt caagggctat gactttagaa 720

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<210> 19
<211> 1180
<212> DNA
<213> Gossypium hirsutum

<400> 19
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tattcaactc catgcccttc ttggaaacag gtggtctgcc atagctactc atttgccgaa 360

aagaacagac aatgagatca agaactactg gaacacacat ctaatgaaaa ggctaaccaa 420

aatggggatc gatcctgtca cccacaagcc taaaaccgat gcactcggct ccaccactgg 480

taaccctaaa gatgctgcta accttagtca catggctcaa tgggagagtg ctcgtttaga 540

agctgaagct agactggttc gtgagtccaa gctagttcct tcaaaccctc ctcaaagcaa 600

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actcacaagg gtttttggcc aaaaaaaaaa aaaaaaaaaa 1180

<210> 20
<211> 927
<212> DNA
<213> Gossypium hirsutum

<400> 20
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ccttcaaaag ctgggcttca aagatgtgga aagagttgca gactgagatg gattaactac 180

ttgagacctg atatcaaaag aggaaagttc agtttacaag aagaacagac cattattcaa 240

ctccatgccc ttcttggaaa caggtggtct gccatagcta ctcatttgcc gaaaagaaca 300

gacaatgaga tcaagaacta ctggaacaca catctaatga aaaggctaac caaaatgggg 360

atcgatcctg tcacccacaa gcctaaaacc gatgcactcg gctccaccac tggtaaccct 420

aaagatgctg ctaaccttag tcacatggct caatgggaga gtgctcgttt agaagctgaa 480

gctagactgg ttcgtgagtc caagctagtt ccttcaaacc ctcctcaaag caaccatttc 540

actgccgttg cgccttcgcc gactccggca actagaccgc aatgcctcga cgtactcaaa 600

gcatggcaag gtgtcgtctg cgggttattc actttcaaca tggacaataa caacttacag 660

tcccctacgt caacgttgaa cttcatggag aacaccacaa cattgcccat gtcatcatca 720

tcgtctgtta atggaatgtt taatgaaaac tttggttgga actcatcgat taatccatgt 780

gaaagtgggg ataatttgaa agttgaatat ggcagtgatc aaattccaga gttaaaggaa 840

agattggatc atccaatgga attgcatgaa atggactatt cttcagaggg tacatggttt 900

caagagttgt ttggatttaa tggttta 927

<210> 21
<211> 600
<212> DNA
<213> Gossypium hirsutum

<400> 21
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ccattgacta ccaaaatcag ctgctgagtg ttcttaaaat tagcaaggaa aaagtaaacg 180

attgttacaa gctcatcctt gatgtatcaa caagacccca ggcccaaggc aatggtggtg 240

catgtaagag gaaggtggag gagagggttc ctagcagccc tagtggagtg attgatgctg 300

catttggcag tgatagctcg agcgattctt ggggcacggt gtccttatcg cctgagcagc 360

agccaccttt taagaagagc agagcccaag agcaagtaat gcgtttgcca tcactcaacc 420

gagtctttgt agacattgtt ggcagccctt cttaattata tctcccttct ctctctccct 480

cgctctctcc atctctttct ttgtcccaaa aagatctata tttattatgc ttatgttcac 540

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<210> 22
<211> 452
<212> DNA
<213> Gossypium hirsutum

<400> 22
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cctctgtatt ggctactgca accatgatgc acgtcataga ccaagttgag cttttcaatc 120

ccattgacta ccaaaatcag ctgctgagtg ttcttaaaat tagcaaggaa aaagtaaacg 180

attgttacaa gctcatcctt gatgtatcaa caagacccca ggcccaaggc aatggtggtg 240

catgtaagag gaaggtggag gagagggttc ctagcagccc tagtggagtg attgatgctg 300

catttggcag tgatagctcg agcgattctt ggggcacggt gtccttatcg cctgagcagc 360

agccaccttt taagaagagc agagcccaag agcaagtaat gcgtttgcca tcactcaacc 420

gagtctttgt agacattgtt ggcagccctt ct 452

<210> 23
<211> 704
<212> DNA
<213> Gossypium hirsutum

<400> 23
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agctattcag acagtgactc cgatgaggat aactgaacca cgacagactc gacaagtatt 120

ggcaggggag cttgtaggac ccgggatttt ccaaaggtgt ttgaacgtgg tccagtacta 180

catgaaggag aaagaagaag actctggttg gttactggct gggtggatca aggaaacact 240

tgggagagct ttacatgagc aaccaatgat ttctggtcgt cttcggaaag gggaacgaaa 300

cgatggagaa ttggagattg tttccaatga ctgcggcatt agactcattg aggcaaggat 360

tcagatgaat ctgtcggatt ttcttgattt gaaacaaagg gaagatgctg aagctcagct 420

tgttttctgg aaagatattg atgagcaaaa cccacagttc tccccactct tttatgttca 480

ggttactaat ttccagtgtg gtggatattc aattgggatt agctgcagta ttcttctggc 540

agatcttttg ttaatgaaag aattccttaa gacatgggca gatattccaa caaggttatt 600

atcaacaaaa acgatgaaca aaagcttcct ttattctacc ttcctggctg aaaaacacca 660

atggtgcctc cctacatcat cacatcaaat tcaagcaaaa ctca 704

<210> 24
<211> 548
<212> DNA
<213> Gossypium hirsutum

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<223> n = unknown

<400> 24
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tagcgatgct gctggtctca atgaccaaaa gaacctcctc acatacggtg gcattggcgg 180

ctactctggc atgggttcaa atggcatgcc aatgggtgga gttgggagtg ttggtggtat 240

gactggcctt ggtggtacag gtgggatggg cgccatggta ggtgttgggt atggaggtgg 300

gcctggcgct ggtggtggaa atgaaggtgg tgttggcatt ggcaatgcgc ctggtgtcgt 360

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tgttgctcta nagtgtgaaa tgttgtcctg tgtatgggtt atgtgataag tccatcttta 540

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<210> 25
<211> 321
<212> DNA
<213> Gossypium hirsutum

<400> 25
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ggcattggcg gctactctgg catgggttca aatggcatgc caatgggtgg agttgggagt 180

gttggtggta tgactggcct tggtggtaca ggtgggatgg gcgccatggt aggtgttggg 240

tatggaggtg ggcctggcgc tggtggtgga aatgaaggtg gtgttggcat tggcaatgcg 300

cctggtgtcg tccactttcc t 321

<210> 26
<211> 727
<212> DNA
<213> Gossypium hirsutum

<220>
<221> misc_feature
<222> (26)..(26)
<223> n = unknown

<400> 26
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gaaaccgtta gcttcatttt acttggagaa gacaaagaag ctattgttgt gctggacttg 300

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ggcaatagca gggttgtggg cagtggtttt gaggccattg atgataaggt atgccgtaga 480

gatgagtcaa atgattggaa tttccgttag gagatttttc agtaatcctc tttcccttc 540

cgtatcgttt ttttattggt actgatatag aaattctatg aaatgagcac aatatgagac 600

accatttttt gctagccaag aagttagatg agtagtagac tttggtttaa gcttatcata 660

attgaaattg ttagactgta acccttttgt ctcctttctc taatttcaaa tccaaattcc 720

catcaat 727

<210> 27
<211> 562
<212> DNA
<213> Gossypium hirsutum

<220>
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<222> (26)..(26)
<223> n = unknown

<400> 27
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ggcaatagca gggttgtggg cagtggtttt gaggccattg atgataaggt atgccgtaga 480

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cgtatcgttt ttttattggt ac 562

<210> 28
<211> 835
<212> DNA
<213> Gossypium hirsutum

<400> 28
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accataaccg tgacagccac caacttttgt ccacctaact atgctttatc tagtgacaat 240

ggcgggtggt gcaatccccc acgagaacac tttgatttgg ccgaaccggc attcttgcgg 300

atagcagaat atcgagctgg aatcgtccct gttatgttca gaagggtgtc atgtgtgaag 360

aaaggaggca tcaggtacac catgaatgga cattcgtact tcaacatggt gttgataacg 420

aacgtgggag gggcagggga tataacgtca gtgtccatca agggttccag aacaggatgg 480

ctacctatgt ccagaaattg gggccaaaac tggcagagca atgcttacct taacggacaa 540

agcctctctt ttaaagtgac tgccagcgat ggcaggacta tcacagccta caatgtagtg 600

cctgctggtt ggcaattcgg acaaactttt gaaggaggcc agttttaaga caatattata 660

gtgtctgtct aatataaaac tggaattgac atattactta tataaggcac atgagcgttt 720

tatgccgagg tagcaaaatg gcgcccgctg gctttatgtg tgaaataggc gagcaagtgc 780

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<210> 29
<211> 765
<212> DNA
<213> Gossypium hirsutum

<400> 29
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agctgcggtg cctgctacga gctccggtgc aacaatgatc ctcaatggtg cattagtcga 180

accataaccg tgacagccac caacttttgt ccacctaact atgctttatc tagtgacaat 240

ggcgggtggt gcaatccccc acgagaacac tttgatttgg ccgaaccggc attcttgcgg 300

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aaaggaggca tcaggtacac catgaatgga cattcgtact tcaacatggt gttgataacg 420

aacgtgggag gggcagggga tataacgtca gtgtccatca agggttccag aacaggatgg 480

ctacctatgt ccagaaattg gggccaaaac tggcagagca atgcttacct taacggacaa 540

agcctctctt ttaaagtgac tgccagcgat ggcaggacta tcacagccta caatgtagtg 600

cctgctggtt ggcaattcgg acaaactttt gaaggaggcc agttttaaga caatattata 660

gtgtctgtct aatataaaac tggaattgac atattactta tataaggcac atgagcgttt 720

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<210> 30
<211> 985
<212> DNA
<213> Gossypium hirsutum

<400> 30
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gatgacagct gggtatttca gattgctgcc agatctccct aagatattct ggcgttaccc 180

tgtttcatat atcaactatg gtgcatgggc attgcaggga gcatacaaga atgatatggt 240

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aatgattttg atagcttata gattactttt cttcatcatt ctcaagttca aggagagagt 420

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gccggtgcca tataagtgtt gaactgttcg atgtagcact catttgccac tacgtatcga 1260

gaccttatcn caatataagt atttaagagc tagtcttatg ttcactaggt ttcatggtgt 1320

ttcgttaatg gtgtgncttt ctatctatat taagtatcaa gtaattaagc aat 1373

<210> 42
<211> 1212
<212> DNA
<213> Gossypium hirsutum

<220>
<221> misc_feature
<222> (895)..(895)
<223> n = unknown

<220>
<221> misc_feature
<222> (911)..(911)
<223> n = unknown

<400> 42
tgctctcaga atcaaaggaa atggtttttc aattcaattt tccagttctt ctattatgtc 60

ttatgttttt aatgtgtggc agaggcaatg cagtaaggga tttggaaggg aaacatgatt 120

ttgaaagcca tggcagagac gacgaagtgg agagtttaga tgacaagtac gttagcgctt 180

actttcatca aacttttgat tctgcaaatc actttgatgg aggtgatgaa gtgaagaatt 240

tagaagacaa atattcaacg gcttacttcc acaaatcgtt agattctgga aaccatggca 300

gagatgacaa agcaaagata ttggaagaca agtatgctac tgcgtacttc cacaagactt 360

ctgtttttga aaaccatggt gaaggtgaca aattaaagag tttggaagat aaatattccg 420

cggcttactt tcacaacaca caatcttcca aaatgatgaa ggatcacaac atggaacatc 480

accaccatta ccataaccat gttgaaagtg cagagatagg cttgttcacc attgatgaac 540

tacatacctt taacgtaggg aagaaattac ccatcttttt cccaataaaa aaccactctc 600

tttaccctcc tttattgcct aaacaaattg ctgacaccat ccctttttca tctttccaag 660

tttctaatat tctacgattc ttctcagttt ctccggactc ccccaaaggc aaaagctgtt 720

caagatacct tcgcaaaatg cgaactcgga gcagcgcaag ggggagaccc aaaatctggg 780

ctacctcttt aaaatcttta catgggtttc taagcatgca tttgggcccc atgttgattt 840

caagttcata agccaaggca tccccccata ccaaccccac tctttcaaag ttacncagtt 900

ttagaatccc ntgaagagat tgaatctcca aagaaagtag catgtcatcc aatgccatat 960

ctttatgcag tttatttctg tcactttgat gccactgaga ttaaagcttt caaactccgt 1020

ttagttggtg atgttacggg agataaggtg gatgctgttg ttctttgcca tatggatact 1080

tcaggttgga gctctgatca tgtcgctttt cgcatgcttg gtattaagca aggaaacact 1140

gtttgccatg tattttctca aggtaatctt gtttggatta atcagccatc ggatatcgct 1200

gccggtgcca ta 1212

<210> 43
<211> 1024
<212> DNA
<213> Gossypium hirsutum

<400> 43
gtataacaga ggcagaatcg accggcataa aaataaaaat gggaggctgg gcaatcgcag 60

tgcatggtgg tgctggtgtt cacccaaatc tccctagtga aaggcaagag gaagctgtgc 120

tactcctcaa tcgttgcctt gatattggaa tctgtgcttt ttgttctaac ctttccggca 180

ttgactgaca tgaacttgta ttgagggaat ttgaacggat cctttgctta attccgggcg 240

tggatcggca cttacggata aagggacgga ggaaatggaa acttgcttta tggatggacc 300

gaacagacca tgcggtgctg tttcgggtaa acgacatgga agaatccgat atctcttgct 360

cgacttgaaa tggataaaac accacattca tctttgggtt ttgccggcgc cgattatttt 420

gcgaggaaac agggtgtgga gttggtggac aatgaatatt tcattacaga atacaatgtg 480

gggatgctta agttaacaaa agaagcacac tcaatcctgt actattaccg tatcctaacc 540

ctcaccacct gcggaggcag cgcagacatg gaaaatcgat tacgaatgaa ctggttacca 600

atctttctct acatcatata aacagtgggt cgagtcgcac catacaaaca atgtcattgc 660

tctgccgcta cttgcaccgg tggattaatg aacattatga ccggaaagat tggtgactcg 720

ccgctgattg gttcagagac ttatgcttgt gacttattgg ctgtttatgt accggtgaat 780

gtgaagccat tatgctaagc actttggcta cggaagtagc agcgtgatgg aatataaatg 840

gttgaatctt cctgaagctg tggatatgtg attaaactag actatgtgaa ggcaaagctg 900

gtctattgcc tgtcctatat gggaagtgct tggggctgaa tactactggt atgatatggt 960

tggctactga agatggatta tggaagttgt tgtctgcaaa ttgatgttag cttagatgct 1020

ggtc 1024

<210> 44
<211> 795
<212> DNA
<213> Gossypium hirsutum

<400> 44
gtataacaga ggcagaatcg accggcataa aaataaaaat gggaggctgg gcaatcgcag 60

tgcatggtgg tgctggtgtt cacccaaatc tccctagtga aaggcaagag gaagctgtgc 120

tactcctcaa tcgttgcctt gatattggaa tctgtgcttt ttgttctaac ctttccggca 180

ttgactgaca tgaacttgta ttgagggaat ttgaacggat cctttgctta attccgggcg 240

tggatcggca cttacggata aagggacgga ggaaatggaa acttgcttta tggatggacc 300

gaacagacca tgcggtgctg tttcgggtaa acgacatgga agaatccgat atctcttgct 360

cgacttgaaa tggataaaac accacattca tctttgggtt ttgccggcgc cgattatttt 420

gcgaggaaac agggtgtgga gttggtggac aatgaatatt tcattacaga atacaatgtg 480

gggatgctta agttaacaaa agaagcacac tcaatcctgt actattaccg tatcctaacc 540

ctcaccacct gcggaggcag cgcagacatg gaaaatcgat tacgaatgaa ctggttacca 600

atctttctct acatcatata aacagtgggt cgagtcgcac catacaaaca atgtcattgc 660

tctgccgcta cttgcaccgg tggattaatg aacattatga ccggaaagat tggtgactcg 720

ccgctgattg gttcagagac ttatgcttgt gacttattgg ctgtttatgt accggtgaat 780

gtgaagccat tatgc 795

<210> 45
<211> 989
<212> DNA
<213> Gossypium hirsutum

<400> 45
accatacact ccaagacccc aaccattaac cgcacaagaa gaatcggatc ttgaattggc 60

acaccaaaga ctgttaaaac tttgccaaaa tgcgcgcagt acaacgttcc tttaaccatt 120

gatgccgagg acacgtcgat tcaacccgcc atcgattact tcacgtactc tcggccatca 180

tgtatacaaa gatgataacc ccattgtcta cggcacgatg caagcttact tgaaagacgc 240

gagggagcgg ctgtttaaca cggcgaggac ggcggagaag ctggggattc atatggggtt 300

taagctggtg agaggcgctt acatgtcgag cgaaaccaag ttggcttctt ccttagggtt 360

cgattcgccg gttcacaaca ccattcaaga cacccatgct tgtttcaatg attgtgcttc 420

gtttatgatt gagaagattg ctgatgggta tggcggactc gttctcgcaa ctcataatct 480

tgagtcaggg aaattggcag catcgaaagc acgaaattta ggaattgaga aggggaatca 540

aaagcttgaa tttgcacagt tatatggaat gtcggaagcg ctgtcgattg gattgagaaa 600

cgcagggttt caagttagca aatacttacc ctatggacca gttgatatgg taatgccata 660

ccttttaagg agagccgaag aaaatagagg actcttatca acttcaagcc ttgatagaac 720

tctcatgggg aaggagttga agagaagatt aaagagcctg caatttgcga agccagagat 780

ggcagcttca gcagcaggta gcatgaagat agaaatagga acgccataaa tgaggttttg 840

attcatagat ggtttgggat gggcaatttt tgccaacaat gtagaattat gaaaaaaaaa 900

taacaatcat tgtaacgttt gggcatttgt cccatgtcaa ttattatttg cattagaaat 960

tgaatttttt tctttatttt tgaaaaaaa 989

<210> 46
<211> 410
<212> DNA
<213> Gossypium arboreum

<400> 46
atcaaggctg ccgtaatgtg caataatgct tgaccaaaga tgatataaaa aaagggaaaa 60

gagaagaaaa ggtgttcgtc cgaaaacaaa tttaacgatt aaagaagtca agagcgcacc 120

tttcaattca tcctttgcgg tcatggtgtt ttgtaagaag gcaaaatcac caagcctgca 180

aggatagtag gttcgggaat tgactttgcc aaagagattt taatattaga tatgttggga 240

gaactcccca ttttgtgtag gctaagagtt caatgtagga gtggacttta tactagtcta 300

atttcttttc agtttcatgt gttattgttg aagcattagt tattttggac ttattcctcc 360

attaacaaac atttgttaat ttctgcttaa aaaaaaaaaa aaaaaaaaaa 410

<210> 47
<211> 665
<212> DNA
<213> Gossypium arboreum

<220>
<221> misc_feature
<222> (19)..(19)
<223> n = unknown

<220>
<221> misc_feature
<222> (112)..(112)
<223> n = unknown

<400> 47
attacaccct tttcatttnt agatcacatc ataagaagac tggggttgaa aaaccccacc 60

tcccatggga gtttcttaag cgatgtgagc gtctcctcct ctgtgtaatc tntgattcaa 120

gatccatcca ttatcttccc tctgtattgg ctactgcaac catgatgcac gtcatagacc 180

aagttgagct tttcaatccc attgactacc aaaatcagct gctgagtgtt cttaaaatta 240

gcaaggaaaa agtaaacgat tgttacaagc tcatccttga tgtatcaaca agaccccagg 300

cccaaggcaa tggtggtgca tgtaagagga aggtggagga gagggttcct agcagcccta 360

gtggagtgat tgatgctgca tttggcagtg atagctcgaa cgattcgtgg ggcacggtgt 420

ccttatcgcc tgagcagcag ccacctttta agaagagcag agcccaagag caagtaatgc 480

gtttgccatc actcaaccga gtctttgtag acattgttgg cagcccttct taattatatc 540

tcccttctct ctctccctcg ctctctccat ctctttcttt gtcccaaaaa gatctatatt 600

tattatgctt atgttcactt ttggttcaag gaatcaaatg ttaagttaaa aaaaaaaaaa 660

aaaaa 665

<210> 48
<211> 626
<212> DNA
<213> Gossypium hirsutum

<220>
<221> misc_feature
<222> (581)..(581)
<223> n = unknown

<400> 48
cttgtttcta tctgtatata accaagggaa ttagacaccc gttcagttga aagagttcag 60

ctgaacaccc caaagatggc caaccacacc gttacctttc tccctaaact atccattgaa 120

gctattcaga cagtgactcc gatgaggata actgaaccac gacagactcg acaagtattg 180

gcaggggagc ttgtaggacc cgggattttc caaaggtgtt tgaacgtggt ccagtactac 240

atgaaggaga aagaagaaga ctctggttgg ttactggctg ggtggatcaa ggaaacactt 300

gggagagctt tacatgagca accaatgatt tctggtcgtc ttcggaaagg ggaacgaaac 360

gatggagaat tggagattgt ttccaatgac tgcggcatta gactcattga ggcaaggatt 420

cagatgaatc tgtcggattt tcttgatttg aaacaaaggg aagatgctga agctcagctt 480

gttttctgga aagatattga tgagcaaaac ccacagttct ccccactctt ttatgttcag 540

gttactaatt tccagtgtgg tggatattca attgggatta nctgcagtat tcttctggca 600

gatcttttgt taatgaaaga attcct 626

<210> 49
<211> 644
<212> DNA
<213> Gossypium arboreum

<220>

<221> misc_feature
<222> (585)..(585)
<223> n = unknown

<400> 49
actgagttaa gagtttcaat tcttctactt attatagtta aatatcatat atggccaagt 60

acttgaatgt tgtgcttgtt cttgctctag tagtggttca agctactgca aggaatgtgc 120

ctagcgatgc tgctggtctc aatgaccaaa agaacctcct cacatacggt ggcattggcg 180

gctactctgg catgggttca aatggcatgc caatgggtgg agttgggagt gttggtggta 240

tgactggcct tggtggtaca ggtgggatgg gcgccatggt aggtgttggg tatggaggtg 300

ggcctggcgc tggtggtgga aatgaaggtg gtgttggcat tggcaatgcg cctggtgtcg 360

tccactttcc ttgaactttg ctggatggtt aaaattttaa agcaactagt ttcttgaact 420

ttgctggagg ggtttaaatt ttaaagcaac tagtctaact tacgttaaag agtaatatta 480

aagttgctct agagtgtgaa atgttttggg ttatgtgata ggtccatctt tatttttttt 540

atgtcgagtt ttcttttgtt ttgtaatcct tcattgtcgt ggttntgtag ccgacttaaa 600

gtaaataaat tgattttgac aagttaaaaa aaaaaaaaaa acaa 644

<210> 50
<211> 677
<212> DNA
<213> Gossypium arboreum

<400> 50
gacactcaaa tataagtagc aaactaacct atgggttatt tggctgattt tgaagggttc 60

atggtgtatt ttggtgcgtg tctgttgaga atccgagttg ttgtcccgtg gtattagctt 120

ctctgtcttg ctggttgcga ttgggcagtt gtgaggtcta taatcaagtg attcaaggaa 180

accgttagct tcattttact tggagaagac aaagaagcta ttgttgtgct ggacttgttc 240

ttgctttttc tctttgtatg gtgtggttta tggtttgtat tatgagtttt atatgaatag 300

aactttgaat ttggtgagaa aattaagaat gagcttggga ggagcagaag tgttgatggc 360

aatagcaggg ttgtgggcag tggttttgag gccattgatg ataaggtatg ccgtagagat 420

gagtcaaatg attggaattt ccgttaggag agttttcagt aatcctcttt ccccttccgt 480

atcgtttttt tattggtact gatatagaaa ttctatgaaa tgagcacaat atgagacacc 540

atttttttgct agccaagaag ttagatgagt ggtagacttt ggtttaagct tatcataatt 600

gaaattgtta gactgtaacc cttttgtctc ctttctctaa tttcaaatcc aaattcccat 660

caataaaaaa aaaaaaa 677

<210> 51
<211> 692
<212> DNA
<213> Gossypium arboreum

<400> 51
ccctacattt ttacgctctg gcacagaaga agaaagccct acctatataa tattacatgc 60

aaatataatg gtatcattag acgttatgac atcgtataat gtaggaggca tctgctacta 120

acatttggca gatgaaatta tttacgaaga acaatgggat attttctgta tttgtttatc 180

atatctggtt acttcaaagc actggttgca acaacagaaa tcaggtttct gctcttcatt 240

gccattgcta gggaggacca taaacaaacc attcttggga gatgggaaac cctcttgcca 300

ttaatgccag aacagtttgc agatattaga agcacttgaa aaataaagct gatacagata 360

attccatatg taattctact ataatctctt tctctttgtt tctgtaatca aattccagta 420

agagcattac tatagtactc atgatttgtt gattcttcta gtgaattgga gagtttagac 480

cctcttgaga agacagtgaa tgtagaactt ggtgcctctt ggatgggaag gctgatgttt 540

tcctaaaaga aggtcgtttt ttcatgtgct gcaatgttcg ccatgtataa agagttcgaa 600

acaatggtga gactctctcc ttgaacttga gaatgatgaa gaaaagtaat ctgtaagcta 660

tcaaaatcat tataacagct gctaagtccc ac 692

<210> 52
<211> 788
<212> DNA
<213> Gossypium arboreum

<400> 52
aagatgatga aaaggggttt tattgttttg gccttgatgg tggttttcgc cgcgacggtg 60

gttacggggg ctgacgagag tgggttagcg aatgagtgca gcaaagattt ccagagcgtg 120

atgacttgct taagctttgc tcaaggaaaa gcagcgtcgc cgtcgaagga gtgttgtaat 180

tcagtggcgg ggattaaaga gaataaaccc aaatgtttgt gttatatttt gcaacaaaca 240

caaacttccg gtgctcaaaa tctcaaaagc ttaggtgttc aagaagataa gctgtttcag 300

ttaccgtcgg cttgtcaatt gaagaacgct agcgtcagtg attgcccaaa gcttcttggg 360

ttatctccga gctcaccaga cgccgccatc ttcaccaact cctcctctaa agcaacgaca 420

cccagtactt caacaaccac cgcaacgccg tcttccgcgg ccgataaaac cgatagcaaa 480

tccagtggaa tcaagcttgg tccccacttc gtcggttcca cggcggcgct actggttgct 540

acagcggccg tgtttttcct tgtattccca gctggatttg cttcaatagt ttaggggttc 600

tgcatgggat ttcgagattt ggaggtttat ttattgttga agtccatttg tttttaaacg 660

gtctcagaaa aaaaatggac tgagttgaca attatgatga tttttcgctt attcttgctt 720

tttcttattt gattaaacgt ccctttgaaa taaaacttag tttattttcc cagctttccc 780

cctgggaa 788

<210> 53
<211> 634
<212> DNA
<213> Gossypium arboreum

<400> 53
caaacactag tagaaggttt agttttacaa acatggctag ttccggtgtc cttaagttgg 60

tttccatgat tctcatcgtg tgcatgacgg tgatgagtgc acccaaggca gccaaagccg 120

ccatcacgtg cagcgacgtg gtgaaccact tgatcccgtg cttgtcctac gtacaaaacg 180

gcggtacacc cgctgctgca tgctgcagtg gggtaaaagc actctacggc gaggctcaga 240

cctccccgga ccgccaaaac gtgtgcaagt gcatcaaatc ggcggtgaac ggaattccgt 300

acaccagcaa taacctcaat ctcgcagccg gcctacctgc taaatgtggt ctccaactcc 360

cttacagcat cagcccctcc actgactgca acaaggtgca gtgaggttga tgatgatgat 420

atggaagaag gagtggaaga aggttccagc tcagctagat aaagtagcta gctaaggtta 480

aataagctgt gttggtgtgt tgtttttag aaaattccat atataatcgg ggaaagaaaa 540

aaaaaataga aaatgtactt tgtaactgta tttcgtatgt gatatatata atgtatcgta 600

atctttaatt ttttaaaaaa aaaaaaaaaa aaaa 634

<210> 54
<211> 884
<212> DNA
<213> Gossypium arboreum

<400> 54
cagtgaaact caaatccatg aagacccgaa tgtggctctt ttctttctgg aaaaggatat 60

gcaccccggg gcaacaatga gcctacattt cactgaaaat acagagaaat cagctttctt 120

accttatcaa actgcccaaa aaataccgtt ttcatctgac aagttgccag aaattttcaa 180

caagttttca gtgaaacctg gatcactgaa ggcagagatg atgaagaaca caattaagga 240

gtgcgaacag ccagcgattg aaggagagga aaaatattgt gcaacctcac tggagtcaat 300

gattgactat agcatttcca aactagggaa agttgatcag gcagtctcaa cagaagtgga 360

aaaacaaacc ccaacgcagc agtatacaat aacagctgga gtgcagaaga tgacaaatgg 420

caaagctgta gtgtgccaca agcagaatta tgcatatgct gtcttctatt gtcataaatc 480

agaaacaaca agggcttaca tggttccttt agagggtgct gacggaacaa aagccaaagc 540

agtagcagtc tgccacacag atacatcagc atggaaccca aagcatttgg cttttcaagt 600

cctaaaagtt gagccaggaa ccattcctgt ctgccatttc cttcctcggg atcacattgt 660

ttgggtccct aagtaaaagt cctgaagagt agattcatac actatagttt cttcacagtg 720

tgcattaaaa cagcttaaag caatatccag tttgttctat aataatatac ccacaagttt 780

agtcatgtaa aatctatcca tgaatcatgt tcttagtaat ggataaaatg atattacttt 840

ctgtatcaca agggtttggt gataaatgta ttagtatttt aagt 884

<210> 55
<211> 690
<212> DNA
<213> Gossypium arboreum

<400> 55
ggagtgctct cagaatcaaa ggaaatggtt tttcaattca attttccagt tcttctatta 60

tgtcttatgt ttttaatgtg tggcagaggc aatgcagtaa gggatttgga agggaaacat 120

gattttgaaa gccatggcag agacgacgaa gtggagagtt tagatgacaa gtacgttagc 180

gcttactttc atcaaacttt tgattctgca aatcactttg atggaggtga tgaagtgaag 240

aatttagaag acaaatattc aacggcttac ttccacaaat cgttagattc tggaaaccat 300

ggaagagatg acaaagcaaa gatattggaa gacaagtatg ctactgcgta cttccacaag 360

acttctgttt ttgaaaacca tggtgaaggt gacaaattaa agagtttgga agataaatat 420

tccgcggctt actttcacaa cacacaatct tccaaaatga tgaaggatca caacatggaa 480

catcaccacc attaccataa ccatgttgaa agtgcagaga taggcttgtt caccattgat 540

gaactacata cctttaacgt agggaagaaa ttacccatct ttttcccaat aaaaaaccac 600

tctctttacc ctcctttatt gcctaaacaa attgctgaca ccatcccttt ttcatcttcc 660

caagtttcta atattctacg attcttctca 690

<210> 56
<211> 653
<212> DNA
<213> Gossypium arboreum

<400> 56
ggcacgagca gaatgaccgg cagagaataa aatgggaggc tgggcaatcg cagtgcatgg 60

tggtgctggt gtagacccaa atctccctaa tgaaaggcaa gaggaagcta aaagactcct 120

cactcgttgc cttgatattg gaatctctgc tcttcgttct aacctctccg ccattgacgt 180

cgttgaactt gtcgtgaggg aattggaaac ggatcctttg tttaattccg ggcgtggatc 240

agcacttacg gagaaaggga cggtggaaat ggaagctagt attatggatg gaccgaagag 300

acgatgcggt gctgtttcgg gtttaacgac ggtgaagaat ccgatatctc ttgctcgact 360

tgttatggat aaaacaccac attcgtattt gggttttgcc ggcgccgaag agtttgcgag 420

gaaacagggt gtggagttgg tggacaatga atatttcatt acagaagaca atgtggggat 480

gcttaagtta gcaaaagaag caaactcaat cctgttcgat taccgtatcc caaccctcac 540

cacctgcggt ggcggcgcag ccatggaaaa tcaattacaa atgaacggct taccaatcag 600

tctctacgcc ccagaaacag taggctgcgt tgtagttgac aaacaggtca ttg 653

<210> 57
<211> 612
<212> DNA
<213> Gossypium arboreum

<400> 57
ttttttttt tttttcataa ttctacattg ttggcaaaaa ttgcccatcc caaaccatct 60

atgaatcaaa acctcactta tggggtgcct atttctatct tcatgctacc tgctgctgta 120

gctgccatct ctggcttcgc aaattgcagg ctctttaatc ttctcttcaa ctccttcccc 180

atgagaggtc tatcaaggct tgaagttgat aagagtcctc tattttcttc ggctctcctt 240

aaaaggtatg gcattaccat atcaactggt ccatagggta agtatttgct aacttgaaac 300

cctgcgtttc tcaatccaaa cgacagcgct tccgacattc catataactg tgcaaattca 360

agcttttgat tccccttctc aattcctaaa tttcgtgctt tcgatgctgc caatttccct 420

gactcaagat tatgagttgc cagaatgagt ccgccatacc catcagcaat cttctcaatc 480

ataaacgaag cacaatcatt gaaacaagca tgggtgtctt gaatggtgtt gtgaaccggc 540

gaatcgaacc ctaaggaaga agccaacttg gtttcgctcg acatgtaagc gcctctcacc 600

agcttaaacg cc 612

<210> 58
<211> 3
<212> RNA
<213> Artificial Sequence

<220>
<223> Stem loop structure of dsRNA

<400> 58
ccc 3

<210> 59
<211> 4
<212> RNA
<213> Artificial Sequence

<220>
<223> Stem loop structure of dsRNA

<400> 59
uucg 4

<210> 60
<211> 5
<212> RNA
<213> Artificial Sequence

<220>
<223> Stem loop structure of dsRNA

<400> 60
ccacc 5

<210> 61
<211> 6
<212> RNA
<213> Artificial Sequence

<220>
<223> Stem loop structure of dsRNA

<400> 61
cuggag 6

<210> 62
<211> 6
<212> RNA
<213> Artificial Sequence

<220>
<223> Stem loop structure of dsRNA

<400> 62
aagcuu 6

<210> 63

<211> 7
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